



RFU630-13106

RFU63x

RFID

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
RFU630-13106	1067133

Other models and accessories → www.sick.com/RFU63x



Detailed technical data

Features

Version	Long Range
Product category	RFID read/write device with integrated antenna
Radio approval	Japan (ARIB STD-T106)
Frequency band	UHF (860 MHz ... 960 MHz)
Carrier frequency	916.8 MHz ... 920.4 MHz
Output power	4 W (EIRP, with integrated antenna, alternatively 30 dBm at the external antenna port, output power adjustable)
RFID standard	EPCglobal UHF Class 1 Generation 2, ISO/IEC 18000-6 C
Modulation	PR-ASK, DSB-ASK
Read range	≤ 10 m ¹⁾
Antenna	Integrated
Transmitting power	Adjustable
Polarization	Circular
Axial ratio	Typ. 2 dB
Aperture angle	72°
Front-to-back ratio	> 17 dB
External antennas	3 external antennas (Up to + 30 dBm, can be adjusted separately)
Further functions	Diagnosis, updatable firmware, freely programmable data output format, Heartbeat, triggering, SICK AppSpace functionalities can be enabled with the SD card accessory SDK6U-P00100 (for firmware ≥ 2.0.0)

¹⁾ Depending on transponder used and ambient conditions.

Mechanics/electronics

Connection type	1 x M12, 17-pin male connector, A-coded 1 x M12, 4-pin female connector, D-coded 1 x USB, 5-pin micro-B socket
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¹⁾ Operation at +25 °C.

Supply voltage	18 V DC ... 30 V DC
Power consumption	Typ. 20 W
Housing	Aluminum die cast
Housing color	Blue, black, silver
Enclosure rating	IP67
Protection class	III
Weight	2.6 kg
Dimensions (L x W x H)	239 mm x 239 mm x 64 mm
MTBF	28 years ¹⁾

¹⁾ Operation at +25 °C.

Interfaces

Ethernet		✓, TCP/IP, OPC UA
	Remark	Companion Spec V1.0 from firmware 2.20
	Function	Host, AUX
	Data transmission rate	10/100 MBit/s
PROFINET		✓
	Function	PROFINET Single Port, PROFINET Dual Port (optional via external connection module CDF600-2), Host
	Data transmission rate	10/100 MBit/s
EtherNet/IP™		✓
	Function	Host
	Data transmission rate	10/100 MBit/s
EtherCAT		✓
	Type of fieldbus integration	Optional over external fieldbus module CDF600
	Function	Host
Serial		✓, RS-232, RS-422
	Remark	RS-422 only via 4-wire
	Function	Host, AUX
	Data transmission rate	0.3 kBaud ... 115.2 kBaud, AUX: 57.6 kBaud
CAN		✓
	Remark	CSN (SICK CAN Sensor Network)
	Function	Host
PROFIBUS DP		✓
	Type of fieldbus integration	Optional over external fieldbus module CDF600-2
	Function	Host
USB		✓
	Remark	USB 2.0
	Function	AUX
CANopen		✓
	Function	Host

¹⁾ Another alternative is to generate your own configuration tools based on the SICK command language CoLa (e.g. in your own software or on PLC function blocks).

Digital inputs	2 (physical, 2 additional logical inputs via optional CMC600 parameter memory in CD-B620 / CDM420)
Digital outputs	2 (physical, 2 additional logical outputs via optional CMC600 parameter memory in CD-B620 / CDM420)
Optical indicators	7 LEDs, multi-color (device status) 1 RGB LED (Process feedback)
Acoustic indicators	1 beeper (Feedback)
Control elements	2 buttons (choose and start/stop functions)
Operator interfaces	Web server
Configuration software	SOPAS ET ¹⁾
Programming interface	Application-specific programming using the SICK AppStudio development environment
Memory card	microSD memory card (parameter cloning, data storage)

¹⁾ Another alternative is to generate your own configuration tools based on the SICK command language CoLa (e.g. in your own software or on PLC function blocks).

Ambient data

Electromagnetic compatibility (EMC)	EN 301489-3
Vibration resistance	EN 60068-2-64:2008-02
Ambient operating temperature	-30 °C ... +60 °C ¹⁾
Storage temperature	-30 °C ... +70 °C
Permissible relative humidity	± 90 %, Non-condensing

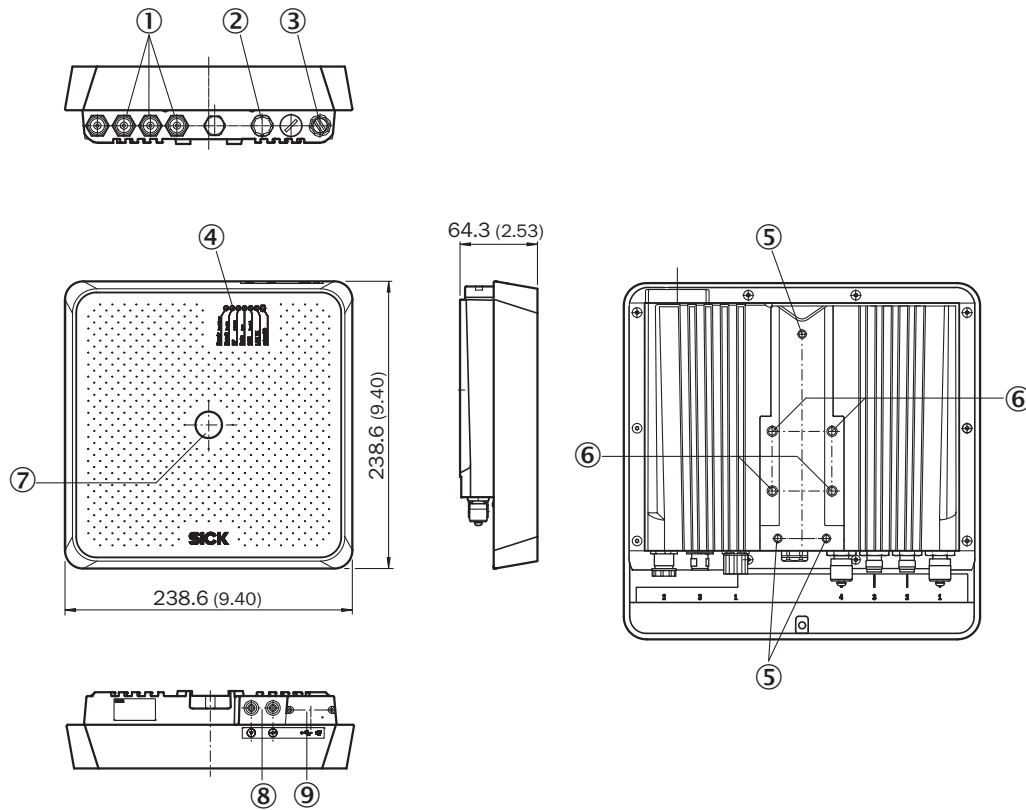
¹⁾ From Firmware version V2.02.

Classifications

ECl@ss 5.0	27280401
ECl@ss 5.1.4	27280401
ECl@ss 6.0	27280401
ECl@ss 6.2	27280401
ECl@ss 7.0	27280401
ECl@ss 8.0	27280401
ECl@ss 8.1	27280401
ECl@ss 9.0	27280401
ECl@ss 10.0	27280401
ECl@ss 11.0	27280401
ETIM 6.0	EC002998
ETIM 7.0	EC002998
UNSPSC 16.0901	52161523

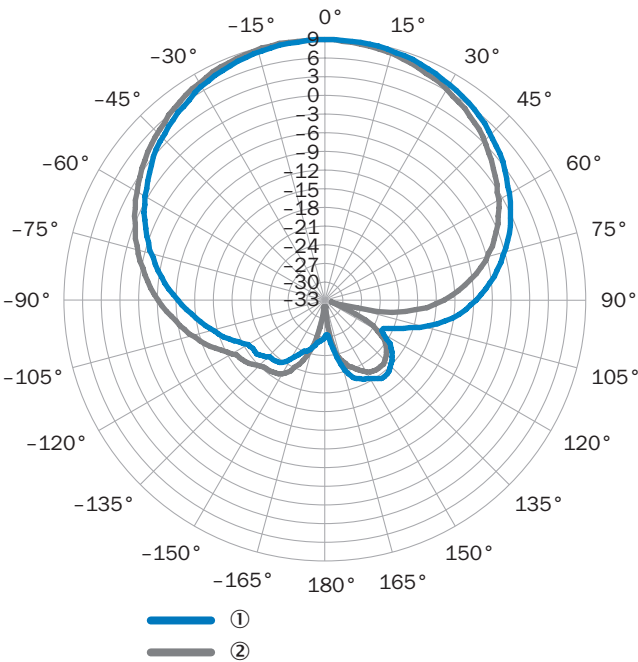
Dimensional drawing (Dimensions in mm (inch))

Dimensional drawing RFU63x



- ① 3 x antenna input ("external", TNC plug, reverse)
- ② "Power/Serial Data/CAN/I/O" connection
- ③ Ethernet connection
- ④ 7 x LED for status display
- ⑤ 3 x M5 threaded mounting holes, 8 mm deep
- ⑥ 4 x M6 threaded mounting holes, 11 mm deep
- ⑦ 1 x LED, multi-colored (process feedback)
- ⑧ Function buttons
- ⑨ Micro-USB female connector and slot for microSD memory card, behind screw-mounted cover

Radiation pattern

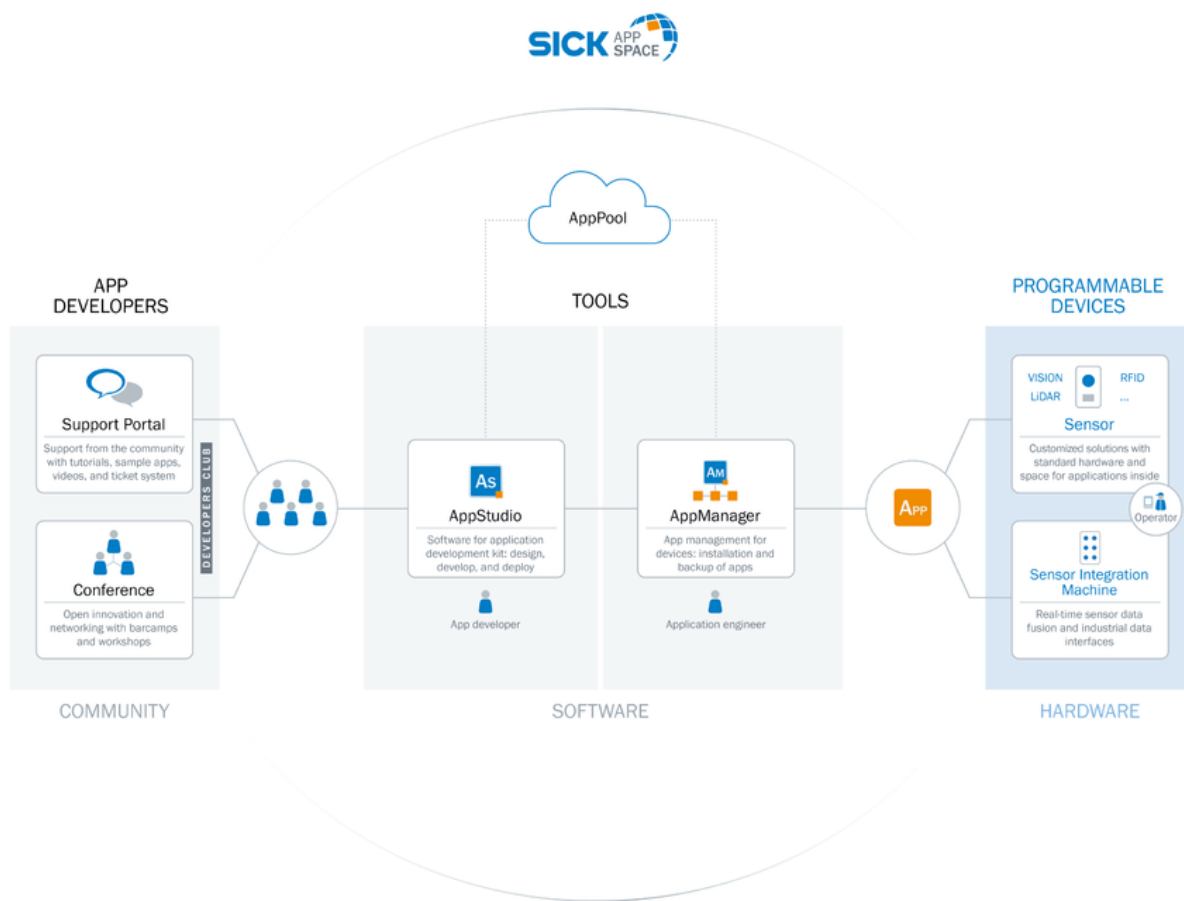


Measured antenna gain in dBic at 868.5 MHz, RHCP (right-hand circularly polarized)

- ① Horizontal plane (azimuth)
- ② Vertical plane (elevation)

Overview

SICK AppSpace



Recommended accessories

Other models and accessories → www.sick.com/RFU63x

	Brief description	Type	Part no.
Mounting brackets and plates			
	Pivot mounting bracket, incl. assembly material	Mounting bracket	2080967
	Mounting bracket for wall mounting, incl. assembly material	Mounting bracket	2060912
Others			
	UHF label, global, plastic, 122 mm x 18 mm x 2 mm; Impinj Monza 4 QT	UHF Transponder, rectangular, global	6068184

	Brief description	Type	Part no.
	Power supply unit (Euro plug) unit with pre-assembled M12 female connector, 17-pin, dimensions (L x W x H): 102 mm x 36 mm x 53 mm	Power supply unit	2062249
Modules			
	Connection device basic for connecting one sensor with 2 A fuse, 5 cable glands and RS-232 interface to sensor via M12, 17-pin female connector, all outputs available on screw/spring-loaded terminals.	CDB650-204	1064114
Storage media			
	microSD memory card with 1 GB for industrial use	microSD memory card	4051366
Plug connectors and cables			
	Head A: male connector, USB-A Head B: male connector, Micro-B Cable: USB 2.0, unshielded, 2 m	USB cable	6036106
	Head A: female connector, M12, 17-pin, straight, A-coded Head B: male connector, M12, 17-pin, straight, A-coded Cable: Power, serial, CAN, digital I/Os, suitable for 2 A, shielded, 0.9 m	YM2A8D-C90XXF2A8D	6052945
	Head A: male connector, M12, 4-pin, straight, D-coded Head B: male connector, RJ45, 8-pin, straight Cable: Ethernet, twisted pair, PUR, halogen-free, shielded, 2 m	YM2D24-020EA1MRJA4	6034414

Recommended services

Additional services → www.sick.com/RFU63x

	Type	Part no.
Commissioning		
• Product area: RFID • Range of services: Inspection of connection, alignment, optimization of parameters of the RFU/RFH as well as tests, Setup of previously defined functions of reading configuration, data processing and network, interfaces and inputs and outputs • Travel expenses: The prices do not include travel costs such as hotel, flight, travel time and expenses. • Duration: Additional work will be invoiced separately	Commissioning RFU/RFH	1610018
Product, system, and software training		
• Range of services: The training contents are geared toward the RFID read/write devices, Training format and location can be worked out in collaboration with SICK, SICK offers training courses for numerous target groups ranging from basic to expert levels	RFH/RFU training	1612233
Maintenance		
• Product area: RFID • Range of services: Inspection, analysis and restoring of defined functions, Checking and adjustment of reading configuration, data processing, network, interfaces and inputs and outputs as well as operating data • Travel expenses: The prices do not include travel costs such as hotel, flight, travel time and expenses. • Duration: Additional work will be invoiced separately	Maintenance RFU/RFH	1611424

	Type	Part no.
Warranty extensions		
• Product area: Identification solutions, machine vision, Distance sensors, Detection and ranging solutions • Range of services: The services correspond to the scope of the statutory manufacturer warranty (SICK general terms and conditions of purchase) • Duration: Five-year warranty from delivery date.	Extended warranty for a total of five years from delivery date	1680671

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com